

Respective Contributions

I joined the research groups of Drs. Lin and Quackenbush with a great interest in studying statistical methods for genomic analysis. They each introduced me to topics in the area and suggested literature to guide my dissertation topics. After careful reading and preliminary projects, I chose to design and pursue a research plan to study the integrative genomic methods of mediation and network analysis particularly for lung diseases.

The Research Plan was written and figures created solely by me, the applicant. The sponsors Dr. Lin and Dr. Quackenbush reviewed the plan, confirmed the project was of importance to the scientific community and feasible during my graduate study and approved of the proposal. Members of the Quackenbush lab have additionally contributed to discussions of the research aims and helped with proof-reading. The aims of this project are original and developed specifically for my doctoral dissertation. The proposed research will be accomplished independently under the guidance of Drs. Lin and Quackenbush.

I will perform all statistical derivations and simulation studies for the proposed methods. I will also apply the developed methods to the clinical and genomic asthma and COPD data in collaboration with scientific experts. I will analyze all results and produce final reports. Together with my sponsors, I will determine the appropriate next steps of this research.